STANDARD CHLORINE CHEMICAL CO. INC. SUPERFUND SITE MONTHLY PROGRESS REPORT OCTOBER 2015

I. Actions Completed During the Reporting Period (October 2015)

Revisions were made to the draft Remedial Investigation Report (RIR) to address EPA comments received on September 17, 2015 and September 21, 2015. The revised RIR was submitted to EPA on October 9, 2015.

Efforts continued to execute an access agreement amendment with the New Jersey Department of Transportation (NJDOT) to permit additional monitoring well installations within the NJDOT right-of-way to the south of the Site in accordance with the scope of work submitted to EPA on August 28, 2015. The access agreement amendment was received from NJDOT on October 15, 2015.

Soil boring drilling and monitoring well installation activities as specified in the scope of work submitted to EPA on August 28, 2015 were completed between October 19, 2015 and October 29, 2015.

Revisions were made to the Cultural Resources documents and exhibit to address EPA comments in accordance with the June 18, 2015 responses to the EPA comments received on May 29, 2015. The final Cultural Resources documents and exhibits were submitted to EPA on October 22, 2015.

II. Results of Sampling, Tests, and Data Received by Respondents

No data were received by Respondents during the reporting period, except for routine data associated with the operations and maintenance of Hydraulic Control Treatment System (HCTS). These data are summarized on a quarterly-basis in an appendix to the monthly progress reports.

III. Work Planned for the Next Two Months (November and December 2015)

Groundwater sampling as specified in the scope of work submitted to EPA on August 28, 2015 was completed between November 2, 2015 and November 5, 2015.

Preparation of the RI Addendum to document the RI activities completed in June-July and October-November 2015 will be initiated.

Revision of the Focused Feasibility Study to address EPA comments and incorporate information for Area 2 will continue.

A review of the geotechnical assessment of the effects of fill placement on the slurry wall will be completed if the assessment is completed and made available by HCIA.

Monthly progress reports will continue to be prepared and submitted to EPA.

IV. Problems Encountered/Anticipated Delays

None this reporting period.

V. Operations and Maintenance Information

Routine operations and maintenance activities were completed. A summary of operations and maintenance activities are provided on a quarterly-basis. The O&M summary for the third quarter of 2015 is included as Appendix A to this monthly progress report.

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APPENDIX A

1.0 DESCRIPTION OF ACTIVITIES COMPLETED

- 1.1 HYDRAULIC CONTROL TREATMENT SYSTEM (HCTS)
 - Continued routine HCTS operation, monitoring, inspection, and reporting efforts as summarized below:
 - Average monthly flows for July, August, and September 2015 were 24.5 gpm, 15.7gpm, and 10.1 gpm, respectively. The total volume of water treated this reporting period was 2,301,932 gallons.
 - Monthly NJPDES sample collection pursuant to NJ Permit No. NJ0155438 was completed. There were no exceedances of permit monitored constituents noted during this period. Whole Effluent Toxicity (WET) via Method 1002.0 (Mysidopsis Bahia), was reported at IC₂₅ >100% growth for the 2015 2nd semiannual monitoring event.
 - Retrofitting of existing HC and DR wells and associated subgrade electrical and groundwater conveyance components to accommodate for future placement of Processed Dredge Material (PDM) on the Seaboard Site, as proposed by HCIA, were initiated during the week of April 6, 2015. To date, HC and DR well assemblies (PVC and HDPE risers, electrical panels, and concrete well vaults) were raised at HCWU-23, 24, 25 and 26, as well as DRWL-10 and 11. PZ-8U/L, PZ-9U/L, PZ-10U/L, and PZ-11U/L series piezometers were also raised to accommodate for future PDM placement. Currently FTS is awaiting PDM placement in the area of the above-referenced HCTS well network by HCIA to complete the retrofitting efforts.
 - Water level gauging data collected during the reporting period from the piezometers, hydraulic control wells, and DNAPL recovery wells are provided in Table 1. Figures 1 and 2 provide 2015 potentiometric surface data (representing a typical HCTS operational scenario for the reporting period), for both the surficial fill unit and deep sand unit, respectively. Figure 1 shows pronounced gradients toward HCWs across the site within the shallow fill unit. Figure 1 also shows a significant differential in potentiometric surface elevations between inner and outer slurry wall piezometer pairs, indicating that the slurry wall is functioning as an effective hydraulic barrier.

Potentiometric surface elevation contours for the deep sand unit are provided on Figure 2. As indicated, the hydraulic gradient in the sand

unit is essentially flat over the area enclosed by the barrier wall system. Similar to the shallow unit, substantial differentials between the water levels inside and outside of the slurry wall exist, which is an indication of the lack of hydraulic communication and groundwater flux through the barrier wall in the deep sand unit.

Figures 3, 4, and 5 present graphs of the monthly (July, August, and September 2015, respectively) water level measurements made in the shallow unit piezometers inside and outside of the slurry wall and the nearest hydraulic control well. The graphs show that hydraulic gradients inside the barrier wall continue to be inward toward the hydraulic control wells. The graphs also show substantial differentials continue to exist between the water levels inside and outside of the slurry wall. Such differentials are indicative of a lack of hydraulic communication between the fill unit inside and outside of the barrier wall and are demonstrative of the effective containment resulting from the low permeability barrier wall system.

1.2 DNAPL MEASUREMENT AND RECOVERY

 Apparent DNAPL thickness measurements from recovery wells are provided in Table 2. DNAPL recovery efforts for the third quarter of 2015 produced 225 gallons of DNAPL. A total of 5,764 gallons of DNAPL have been recovered from the DNAPL recovery well network since January 2012. Total DNAPL recovery to date is provided in the summary table below.

Well ID	July 2015 DNAPL Recovery (gal)	August 2015 DNAPL Recovery (gal)	September 2015 DNAPL Recovery (gal)	Total DNAPL Recovered (gal)	
DRWL-1	NR	NR	NR	396	
DRWL-5	NR	47	NR	396	
DRWL-7	NR	NR	NR	50	
DRWL-9	NR	42.5	NR	921	
DRWL-10	NR	NR	NR	142	
DRWL-11	42	42.25	50	3,858	
MW-D-28	NR	NR	1	1	

1.3 NON-HCTS INSPECTIONS

- Continued post-construction inspections of the surface covers, cathodic protection system/steel sheet pile wall, stormwater management system, freshwater wetlands, fences, and slurry wall working platform.
- Based upon the July 2015 Wetland Mitigation Monitoring performed by Princeton Hydro, current conditions of the onsite fresh water wetlands are considered to be at or near the 10% maximum coverage of nonnative invasive species specified in the wetland mitigation program for the SCCC site. It is anticipated that FTS, on the CPG's behalf, will petition the agency to conduct a final site inspection of the freshwater wetlands during the fourth quarter of 2015.

1.4 ADDITIONAL COMPLETED EFFORTS

None to report this period.

2.0 PROJECTED FUTURE ACTIVITIES

2.1 HCTS RELATED EFFORTS

- Continue routine HCTS operations, monitoring, and maintenance.
- DNAPL recovery will continue.
- Additional monitoring wells installed as part of the RI/FFS efforts performed during the 2nd quarter of 2015 were added to routine monthly gauging and DNAPL recovery efforts (where applicable). As of the end of this reporting period, one (1) monthly gauging event was performed at monitoring wells MW-D-28 and MW-D-35. Table 2 provides gauging information for both locations. During September 2015, MW-D-28 exhibited a recoverable quantity of DNAPL while DNAPL was not observed during gauging efforts at MW-D-35.

2.2 NON-HCTS RELATED EFFORTS

- Routine Non-HCTS (consolidation area and IRM surface covers) inspections and maintenance will continue.
- Soil erosion areas and re-vegetation issues will be addressed, as necessary.

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- Quarterly inspections of the surface cover systems and repair (as necessary) will continue.
- Annual cathodic protection system inspection will be conducted during the 4th Quarter of 2015.

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TABLES

Table 1
Standard Chlorine Chemical Co. Inc.
2nd Quarter 2015 Progress Report

HCTS Gauging Data Summary

			Jul-15			Aug-15			Sep-15	
Well ID	Top of Casing Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)
HC-PZ-1U	11.18	6.89	16.70	4.29	7.37	16.69	3.81	7.93	16.70	3.25
HC-PZ-2U	11.32	6.88	16.08	4.44	7.41	16.06	3.91	7.93	16.05	3.39
HC-PZ-3U	10.33	7.88	15.00	2.45	9.01	14.98	1.32	10.00	14.99	0.33
HC-PZ-4U	10.16	5.12	14.60	5.04	7.09	14.58	3.07	8.22	14.60	1.94
HC-PZ-6U	7.15	2.62	9.44	4.53	3.64	9.43	3.51	4.23	9.45	2.92
HC-PZ-7U	6.51	1.96	8.91	4.55	2.77	8.92	3.74	3.24	8.91	3.27
HC-PZ-8U	15.75	11.72	20.90	4.03	13.05	20.89	2.70	13.62	20.90	2.13
HC-PZ-9U	15.86	11.71	20.90	4.15	12.33	20.85	3.53	12.83	20.85	3.03
HC-PZ-10U	15.28	14.17	19.60	1.11	14.85	19.58	0.43	15.25	19.59	0.03
HC-PZ-11U	10.1	9.48	14.48	0.62	9.55	14.50	0.55	9.64	14.50	0.46
HC-PZ-12U	5.35	3.27	8.43	2.08	3.97	8.43	1.38	4.48	8.44	0.87
HC-PZ-13U	4.76	3.11	8.40	1.65	3.43	8.38	1.33	3.61	8.40	1.15
HC-PZ-14U	6.03	2.98	10.05	3.05	3.84	10.04	2.19	3.99	10.05	2.04
HC-PZ-15U	8.28	5.65	11.74	2.63	5.87	11.73	2.41	5.93	11.72	2.35
HC-PZ-1L	11.48	7.99	25.15	3.49	8.56	25.12	2.92	8.90	25.10	2.58
HC-PZ-2L	12.15	8.96	23.83	3.19	9.17	23.80	2.98	9.22	23.81	2.93
HC-PZ-3L	9.97	6.28	23.51	3.69	6.84	23.50	3.13	7.23	23.50	2.74
HC-PZ-4L	9.17	6.69	20.52	2.48	6.97	20.53	2.20	7.25	20.54	1.92
HC-PZ-6L	6.06	3.10	16.83	2.96	3.46	16.84	2.60	3.72	16.83	2.34
HC-PZ-7L	5.5	1.13	17.00	4.37	1.53	16.99	3.97	1.92	16.99	3.58
HC-PZ-8L	14.89	11.33	29.08	3.56	12.4	29.05	2.49	12.79	29.06	2.10
HC-PZ-9L	15.3	12.33	28.71	2.97	12.77	28.79	2.53	13.10	28.75	2.20
HC-PZ-10L	15.98	14.01	29.88	1.97	14.81	29.89	1.17	15.11	29.90	0.87
HC-PZ-11L	8.96	8.16	22.03	0.80	8.33	22.02	0.63	8.44	22.02	0.52
HC-PZ-12L	5.07	2.16	15.75	2.91	2.86	15.78	2.21	3.19	15.75	1.88
HC-PZ-13L	4.77	3.11	16.22	1.66	3.34	16.22	1.43	3.42	16.22	1.35
HZ-PZ-14L	6.43	3.17	18.85	3.26	3.77	18.84	2.66	4.10	18.85	2.33
SC-MW-16L	8.02	5.08	19.80	2.94	5.05	19.82	2.97	5.21	19.81	2.81
MW-D-28	8.88	NM	NM	NM	NM	NM	NM	8.73	25.90	0.15
MW-D-35	7.11	NM	NM	NM	NM	NM	NM	6.52	24.40	0.59

Table 1
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2nd Quarter 2015 Progress Report

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		Jul-15				Aug-15		Sep-15			
Well ID	Top of Casing Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Groundwater Elevation MSL (NAD 83)	
HCWU-1	10.30	9.94	13.60	0.36	10.92	13.59	-0.62	11.09	13.59	-0.79	
HCWU-2	10.91	8.80	14.15	2.11	8.98	10.30	1.93	11.17	10.30	-0.26	
HCWU-3	9.85	9.77	13.87	0.08	10.93	10.24	-1.08	10.02	10.24	-0.17	
HCWU-4	8.54	8.11	12.95	0.43	8.81	12.94	-0.27	8.81	12.94	-0.27	
HCWU-5	8.16	8.17	12.33	-0.01	8.63	12.30	-0.47	8.87	12.30	-0.71	
HCWU-6	5.84	4.88	10.36	0.96	2.12	10.35	3.72	2.41	10.35	3.43	
HCWU-7	5.52	5.52	8.74	0.00	5.06	8.75	0.46	6.11	8.75	-0.59	
HCWU-8	5.65	4.97	11.88	0.68	7.03	7.25	-1.38	5.96	7.25	-0.31	
HCWU-9	5.66	0.55	6.85	5.11	0.82	6.85	4.84	1.51	6.85	4.15	
HCWU-10	4.28	4.76	7.59	-0.48	4.52	7.60	-0.24	4.52	7.60	-0.24	
HCWU-11	5.96	4.54	8.36	1.42	4.75	8.35	1.21	4.89	8.35	1.07	
HCWU-12	5.26	4.69	8.28	0.57	6.02	8.27	-0.76	6.10	8.27	-0.84	
HCWU-13	4.14	4.54	7.85	-0.40	5.17	7.85	-1.03	5.59	7.85	-1.45	
HCWU-14	2.95	-0.12	5.40	3.07	0.57	5.40	2.38	0.72	5.40	2.23	
HCWU-15	4.44	4.81	8.78	-0.37	4.73	8.77	-0.29	4.04	8.77	0.40	
HCWU-16	3.98	4.07	8.50	-0.09	5.71	8.50	-1.73	4.89	8.50	-0.91	
HCWU-17	3.31	5.42	7.50	-2.11	4.90	7.50	-1.59	3.98	7.50	-0.67	
HCWU-18	3.16	0.40	6.50	2.76	0.88	6.49	2.28	3.12	6.49	0.04	
HCWU-19	2.97	2.70	8.39	0.27	1.32	8.39	1.65	1.46	8.39	1.51	
HCWU-20	3.32	3.98	7.29	-0.66	1.22	7.28	2.10	2.93	7.28	0.39	
HCWU-21	13.41	9.74	17.05	3.67	12.66	17.05	0.75	11.31	17.05	2.10	
HCWU-22	4.99	4.69	9.71	0.30	5.29	9.71	-0.30	5.99	9.71	-1.00	
HCWU-23	11.53	7.68	16.30	3.85	9.07	12.00	2.46	9.83	12.00	1.70	
HCWU-24	10.87	13.95	16.24	-3.08	13.71	16.22	-2.84	9.50	16.22	1.37	
HCWU-25	16.60	14.80	21.39	1.80	15.92	21.38	0.68	16.14	21.38	0.46	
HCWU-26	11.71	13.88	17.50	-2.17	10.27	17.50	1.44	10.27	17.50	1.44	

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DRWU-1	5.17	1.44	10.65	3.73	2.08	10.65	3.09	2.08	10.65	3.09	
DRWU-2	5.63	1.85	11.79	3.78	2.46	11.80	3.17	2.46	11.80	3.17	
DRWU-3	16.13	11.44	22.35	4.69	12.06	22.35	4.07	12.06	22.35	4.07	
DRWU-4	4.71	0.93	12.15	3.78	1.43	12.14	3.28	1.43	12.14	3.28	
DRWU-5	2.80	-0.28	8.82	3.08	0.70	8.81	2.10	0.70	8.81	2.10	
DRWL-1	7.35	3.03	31.90	4.32	3.90	31.90	3.45	3.90	31.90	3.45	
DRWL-2	3.09	0.01	26.80	3.08	0.41	26.89	2.68	0.41	26.87	2.68	
DRWL-3	3.87	0.33	28.87	3.54	1.39	28.85	2.48	1.39	28.85	2.48	
DRWL-4	5.65	2.00	30.45	3.65	2.91	30.45	2.74	2.91	30.45	2.74	
DRWL-5	5.74	1.47	29.65	4.27	2.23	29.65	3.51	2.23	29.65	3.51	
DRWL-6	17.36	13.41	40.82	3.95	14.46	40.80	2.90	14.46	40.80	2.90	
DRWL-7	2.76	-0.21	27.15	2.97	0.54	27.15	2.22	0.54	27.15	2.22	
DRWL-8	3.17	0.02	28.65	3.15	0.91	28.65	2.26	0.91	28.65	2.26	
DRWL-9	4.69	0.58	28.30	4.11	2.06	28.30	2.63	2.06	28.30	2.63	
DRWL-10 ⁽¹⁾	12.52	9.48	36.61	3.04	10.63	36.61	1.89	10.63	36.61	1.89	
DRWL-11	11.13	8.85	36.20	2.28	10.00	36.20	1.13	10.00	36.20	1.13	

⁽¹⁾ Top of casing elevation at DRWL-10 is estimated based on field measurments pending final casing extension efforts.

Table 2

Standard Chlorine Chemical Co. Inc.

3rd Quarter 2015 Progress Report

DNAPL Summary

		Jul	-15		Aug-15				Sep-15			
Well ID	Depth to Water (ft-TOC)	Depth to DNAPL (ft-TOC)	Total Depth (ft- TOC)	DNAPL Thickness (ft)	Depth to Water (ft-TOC)	Depth to DNAPL (ft-TOC)	Total Depth (ft- TOC)	DNAPL Thickness (ft)	Depth to Water (ft-TOC)	Depth to DNAPL (ft-TOC)	Total Depth (ft- TOC)	DNAPL Thickness (ft)
DRWU-1	1.44	10.65	10.65	Trace	1.74	10.65	10.65	Trace	2.08	10.65	10.65	Trace
DRWU-2	1.85	NP	11.79	NP	2.22	NP	11.80	NP	2.46	NP	11.80	NP
DRWU-3	11.44	22.15	22.35	0.20	11.82	22.15	22.35	0.20	12.06	22.25	22.35	0.10
DRWU-4	0.93	12.15	12.15	Trace	1.11	NP	12.14	NP	1.43	12.14	12.14	Trace
DRWU-5	-0.28	NP	8.82	NP	0.53	NP	8.81	NP	0.70	NP	8.81	NP
DRWL-1	3.03	30.20	31.90	1.70	3.41	30.20	31.90	1.70	3.90	29.90	31.90	2.00
DRWL-2	0.01	NP	26.80	NP	0.28	NP	26.89	NP	0.41	NP	26.87	NP
DRWL-3	0.33	28.87	28.87	Trace	1.03	28.85	28.85	Trace	1.39	28.85	28.85	Trace
DRWL-4	2.00	30.45	30.45	Trace	2.53	30.45	30.45	Trace	2.91	30.45	30.45	Trace
DRWL-5	1.47	26.55	29.65	3.10	1.94	29.25	29.65	0.40	2.23	28.65	29.65	1.00
DRWL-6	13.41	NP	40.82	NP	14.05	NP	40.80	NP	14.46	NP	40.80	NP
DRWL-7	-0.21	26.65	27.15	0.50	0.16	26.65	27.15	0.50	0.54	26.65	27.15	0.50
DRWL-8	0.02	NP	28.65	NP	0.57	NP	28.65	NP	0.91	NP	28.65	NP
DRWL-9	0.58	25.55	28.30	2.75	1.93	27.00	28.30	1.30	2.06	26.70	28.30	1.60
DRWL-10	9.48	34.61	36.61	2.00	10.26	34.31	36.61	2.30	10.63	34.11	36.61	2.50
DRWL-11	8.85	33.00	36.20	3.20	9.70	34.70	36.20	1.50	10.00	31.60	36.20	4.60
MW-D-28	NM	NM	NM	NM	NM	NM	NM	NM	8.73	20.50	25.90	5.40
MW-D-35	NM	NM	NM	NM	NM	NM	NM	NM	6.52	NP	24.40	NP

ft-TOC: feet below top of casing.

NP: no product detected NM: not measured

MW-D-28 and MW-D-35 were added to the routine monthly O&M efforts in September 2015

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FIGURES









